1.2 IN THE CLAIMS:

1. (Original) A method for creating a uniform vascular wound in a zebrafish larva or zebrafish, comprising:

(a) subjecting a zebrafish larva to laser irradiation in an amount and for a period of time effective to cause a uniform vascular wound in said zebrafish larva; or

(b) exposing a zebrafish to water containing sodium hydroxide in an amount and for a period of time effective to cause a uniform vascular wound detectable in the gills of said zebrafish.

2. (Original) The method of claim 1, comprising subjecting a zebrafish larva to laser irradiation in an amount and for a period of time effective to cause a uniform vascular wound in said zebrafish larva.

3. (Original) The method of claim 2, wherein said zebrafish larva is a zebrafish larva three to five days postfertilization.

4. (Original) The method of claim 2, wherein said zebrafish larva is anesthetized.

5. (Original) The method of claim 2, wherein said zebrafish larva is immobilized in agarose.

6. (Original) The method of claim 2, wherein said laser irradiation is applied to a major blood vessel of said zebrafish larva to cause a uniform injury in said blood vessel.

7. (Currently Amended) The method of claim 6, wherein said laser irradiation is applied to a major artery or a major vein of said zebrafish larva.

8. (Cancelled)

9. (Original) The method of claim 6, further comprising measuring the time to occlusion in the injured blood vessel.

10. (Original) The method of claim 1, comprising exposing a zebrafish to water containing sodium hydroxide in an amount and for a period of time effective to cause a uniform vascular wound detectable in the gills of said zebrafish.

11. (Original) The method of claim 10, wherein said zebrafish is an adult zebrafish.

12. (Original) The method of claim 10, further comprising measuring the time to bleeding in the gills of said zebrafish.

13. (Original) The method of claim 1, further comprising contacting said zebrafish larva or zebrafish with a candidate substance and testing the ability of said candidate substance to alter the vascular wound created in said zebrafish larva or zebrafish.

14. (Currently Amended) The method of claim 1, wherein said zebrafish larva or zebrafish is a mutant or genetically engineered zebrafish larva or zebrafish, or is one of a population of mutant zebrafish larvae or zebrafish produced by large-scale mutagenesis.

15. (Cancelled)

16. (Original) A method for creating a uniform vascular injury in a zebrafish larva, comprising subjecting a zebrafish larva to laser irradiation in an amount and for a period of time effective to cause a reproducible thrombus in a major artery or a major vein of said zebrafish larva, wherein said reproducible thrombus is reversible so that circulation returns at the site of injury.

17. (Original) A method for creating a uniform vascular injury in a zebrafish, comprising exposing an adult zebrafish to water containing sodium hydroxide in an amount and for a period of time effective to cause a reproducible visible hemorrhage in the gills of said zebrafish.

18. (Original) A method for measuring coagulation activity in a zebrafish blood sample, comprising collecting a zebrafish blood sample in a heparinized capillary tube and determining the time required for significant lysis of red cells in said blood sample.

19.-21. (Cancelled)

22. (Original) A method for measuring the clotting activity of a zebrafish blood sample, comprising collecting a zebrafish blood sample in a heparinized capillary tube, centrifuging said capillary tube to separate red cells from plasma, and determining the time required for significant red cell lysis by measuring the time for a significant red color to develop in said plasma following lysis of the red cells.

23. (Original) A method for analyzing coagulation in zebrafish, comprising:

(a) subjecting a zebrafish larva to an amount of laser irradiation effective to cause a uniform vascular wound and measuring the time to coagulation in said wound;

(b) exposing a zebrafish to water containing an amount of sodium hydroxide effective to cause a uniform vascular wound in the gills of said zebrafish and measuring the time to coagulation in said wound; or

(c) collecting a zebrafish blood sample in a heparinized capillary tube and measuring the time required for significant red cell lysis in said sample.

24.-35. (Cancelled)

36. (Original) A method for identifying a candidate substance that alters thrombosis, comprising contacting zebrafish larvae or zebrafish with a candidate substance and determining the ability of said candidate substance to change the coagulation time in zebrafish blood, wherein an ability to change the coagulation time in zebrafish blood is measured by:

(a) creating laser irradiation vascular wounds in zebrafish larvae and measuring the occlusion time in said wounds in the presence and absence of said candidate substance;

(b) creating sodium hydroxide-induced vascular gill wounds in zebrafish and measuring the coagulation time in said wounds in the presence and absence of said candidate substance; or

(c) collecting zebrafish blood samples in heparinized capillary tubes and measuring the time required for significant red cell lysis in samples from zebrafish in the presence and absence of said candidate substance;

wherein a candidate substance that changes said coagulation time is indicative of a candidate substance that alters thrombosis.

37.-45. (Cancelled)

46. (Original) A method for identifying a gene associated with coagulation, comprising creating a mutant zebrafish larvae or zebrafish comprising a mutation in a gene and determining the effect of the mutation on coagulation time in zebrafish blood, wherein the effect of the mutation on coagulation time in zebrafish blood is measured by:

(a) creating laser irradiation vascular wounds in zebrafish larvae and measuring the occlusion time in said wounds in the presence and absence of said mutation;

(b) creating sodium hydroxide-induced vascular gill wounds in zebrafish and measuring the coagulation time in said wounds in the presence and absence of said mutation; or

(c) collecting zebrafish blood samples in heparinized capillary tubes and measuring the time required for significant red cell lysis in samples from zebrafish in the presence and absence of said mutation;

wherein identifying a mutation that changes said coagulation time is indicative of a gene associated with coagulation.

47.-58. (Cancelled)